

“Finding Economic Certainty in an Uncertain World”
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December 21, 2011

As Prepared for Delivery
Embargoed until 12:45 pm

Thank you very much Senator Hagan for your kind introduction. I especially appreciate that you mentioned my research and my enthusiasm for tennis. I have enjoyed and benefited from meeting with you to discuss the critical economic issues that our nation faces. I also want to thank you for all the hard work that you do representing the state of North Carolina in the U.S. Senate.

As everyone knows, the work the Congress does is not always predictable. One needs to look no further for evidence of this than the current debate over extending the 2 percent payroll tax cut and emergency unemployment benefits. President Obama proposed extending the payroll tax cut and extending and reforming unemployment benefits for another year in the American Jobs Act back in September. Nationwide 160 million workers benefited from the payroll tax cut this year, with the typical family receiving about a \$1,000 tax cut. In North Carolina, almost 5 million workers benefited from this tax cut.

Economists from across the spectrum have said that continuing the payroll tax cut and extended unemployment benefits would provide a boost to economic growth and job creation in the coming year. These measures have helped the economy to expand over the past year, despite headwinds created by higher gasoline prices, supply shocks from natural disasters in Asia, and sovereign debt issues in parts of Europe.

Last week, the Senate voted overwhelmingly to extend the payroll tax cut and unemployment benefits for two months in order to give Congress time to develop a plan to extend them for all of next year, so that working Americans would have the certainty that they would not face a tax increase starting with their first paycheck in January. Many economists have boosted their forecasts of economic growth for next year on the assumption that the payroll tax cut and extended unemployment benefits will stay in effect. However, the extension of the payroll tax cut and unemployment benefits now faces an uncertain future in the House of Representatives. Forecasting the economy is hard in part because it is hard to

forecast whether Congress will continue the policies that are helping the economy to recover from the deepest recession in the post-war period.

There is no doubt that we live in uncertain times. This is certainly true – but you should be aware that it has always been true. One of the collective illusions that led to the economic crisis that began in 2007 was the mistaken belief that we had tamed economic uncertainty and financial volatility. Many were lulled into believing that risk and uncertainty were a thing of the past, like a quaint scene from a Frank Capra movie. But we rediscovered that random, unpredictable events are always possible.

Economists have long recognized risk and uncertainty as an inherent feature of the economic landscape. Indeed, economists have identified varieties of uncertainty.

The economist Frank Knight explained uncertainty by distinguishing it from risk. He referred to risk as being measurable – a known probability of an event occurring. An example is the chance of an accident being caused by a tire blowing out in a fleet of trucks over the course of a year. With enough data and experience, we can calculate such risk.

Uncertainty, by contrast, is immeasurable – an unknown chance of an extreme event occurring. We don't know what sets off fear and panic in financial markets, for example, so it is impossible to calculate the odds of this type of an event.

Knightian uncertainty has come up a lot more recently than it used to because it helps to understand financial crises. In times of uncertainty, true uncertainty, as opposed to known risk, investors panic, realizing that their models are no longer applicable, and they often run to safety. We saw that at the height of the financial crisis.

One of the key advances of modern economies is that we can use the tools of economics to *reduce* the consequences of both risk and uncertainty. These tools include insurance and portfolio diversification. For example, having home and auto insurance reduces the costs to us if a hurricane knocks a tree down on our front porch or car – as happened to me a few months ago.

And diversifying one's investments can reduce the consequences of financial shocks. We saw in the Enron debacle that too many workers were insufficiently diversified, that their job security and financial security were needlessly bound together because they had invested their 401(k)s in Enron stock. When Enron went bust, they not only lost their jobs, but also their retirement savings.

Social insurance programs, like Social Security, Medicare and Unemployment Insurance, provide another essential layer of protection against risk and uncertainty.

As do regulatory agencies. The FDIC, for example, was established in the darkest hours of the Great Depression to reduce the consequences of bank runs, and give investors confidence. By providing insurance in the event that a bank fails, depositors did not need to run for the exits when uncertainty increased. The FDIC also limits bank failures through prudential regulation. For nearly 80 years, the FDIC has helped to stabilize our financial system.

Smart regulation can also help contain the effects of uncertainty. For example, the Wall Street Reform and Consumer Protection Act of 2010 requires systemically important financial institutions to hold more capital. Capital provides a buffer against losses, and therefore promotes stability when adverse shocks occur.

In fact, because our banks and other financial institutions were forced to raise capital and improve their balance sheets the last few years, they are currently in a stronger position to weather the heightened uncertainty that has arisen from sovereign debt problems in the Eurozone.

While we live with uncertainty – and try to contain its effects – it is also important to keep the effects of uncertainty in perspective. There are times when, as Franklin Delano Roosevelt said, “The only thing we have to fear is fear itself.” I believe this is one of those times.

A number of commentators have claimed that uncertainty is holding back the U.S. economy. They often assert with great confidence that an outburst of regulations – and regulatory uncertainty, more generally – are crushing job growth and hurting the economy. The evidence, however, suggests just the opposite. First, according to analysis by Bloomberg, there were more new regulations issued in the first 33 months of George W. Bush’s Administration than in the first 33 months of the Obama Administration. Second, if regulatory uncertainty was hurting companies, why would corporate profits be at record levels? Third, a former adviser to President Ronald Reagan recently pointed out that companies themselves rarely cite regulatory burdens as a reason for layoffs. And fourth, it should not be forgotten that regulations that curb pollution and protect the safety and health of the American people are good for the economy and improve our quality of life even if their benefits are not directly counted in our GDP statistics. Over the first two years of the Obama Administration, the net benefits of regulation exceeded \$35 billion.

One of the dangers of exaggerating the effects of uncertainty is that it could paralyze action. The fact that we live in uncertain times should not prevent us from taking actions to build a better future.

I was reminded of this point in a recent conversation I had with Jeff Bezos, the founder of Amazon. Bezos told me that everyone asks him what's going to change in the future. That's an interesting question, he said, and we can speculate about it all day long. But he went on to say that he is rarely asked *what's going to stay the same* over the next 10 years, or so. When you think about what's going to stay the same, he emphasized, you can plan for it and make the appropriate investments. Bezos said that at Amazon he is confident that customers will always want low prices, wide variety and quick delivery. He told me that it is impossible to imagine a day when a customer would say, "Gee, that Amazon was great, but I wish they charged me more and delivered more slowly." So Amazon plans and invests to meet those demands, for example by improving delivery systems.

I think this is an insightful way to think about running a company – and a valuable lesson for thinking about the economy as a whole. It's interesting to use that lens – the lens of certainty – to view the U.S. economy. Yes, a great deal will change and much is uncertain, but what will stay the same?

I have been asking myself that question and have come up with a list of seven significant items that we can be relatively confident that we can count on for the U.S. economy.

First, the United States of America will continue to have a large, free market economy that benefits from competition and easy entry of new competitors. This applies to both product markets and labor markets. Creative destruction, as Schumpeter called it, is a hallmark of the American economy. It raises productivity and makes us more competitive in the global marketplace. Competition causes companies to be responsive to their customers, and to constantly innovate to stay ahead of the field. Competition also benefits workers by giving them opportunities to change jobs, which puts pressure on employers to try to retain them. One often overlooked benefit of having a large market is that it is easier to specialize and take advantage of scale economies. Given the size, wealth and competitiveness of our markets, companies the world over will always have an incentive to develop new products and service the U.S. economy. To paraphrase Frank Sinatra, if you can succeed here, you'll succeed everywhere. This gives our consumers, companies and workers a huge advantage.

Second, in spite of our problems, we have strong and stable legal and economic institutions that are capable of adapting with the times and circumstances. These

institutions have enabled us to build the largest economy in the world, and they are the model for the world. There is no question that some of our financial regulatory institutions failed us during the housing bubble, and that we had large gaps in our financial regulatory system that allowed risk to build up in the shadow banking system. But ask yourself this, which country would you rather trade places with? Which country does a better job than the U.S. when it comes to having a strong, independent Central Bank or protecting bank depositors? Which country's legal system does a better job protecting property rights and enforcing contracts? Who strikes a better balance between protecting patents and promoting competition? Which country has a better nonpartisan arbiter of fiscal issues than the Congressional Budget Office in assessing the benefits and costs of proposed policies? Or than the Joint Committee on Taxation when it comes to evaluating tax proposals?

Faith in our fiscal, economic and financial institutions is a key reason why the U.S. is a safe haven when uncertainty increases anywhere in the world. The dollar is the world's reserve currency because of the strength of our economic system and institutions. I think we can be confident that the U.S. will continue to play this role in the foreseeable future.

Third, we are diverse country and we have a diversified economy. High school textbooks will tell you that our economy moved from being agrarian and resource-based in the 1800s to being industrial in the first half of the 1900s and then to being service oriented later in the 1900s and then idea-oriented in the 2000s. But the truth is that we are *all* of those things. No major (two-digit) industry contributes more than 15 percent of our GDP.

Our diversified economy is supported by a diverse workforce, in terms of skills and training as well as demographics. We are a nation of immigrants. Although the process has not always been easy or uncontroversial, over our history we have learned to welcome and incorporate immigrants and diverse populations. As a consequence, we are a diverse nation ethnically, racially, and culturally. No country attracts more talented or ambitious immigrants than the U.S. Immigrants contribute significantly to our economy. For example, immigrants start new businesses and file for patents at higher rates than U.S. born citizens. Our diversity is a strength, and we will continue to be a magnet for talented people the world over, and a nation that tolerates and welcomes diversity. The President is deeply committed to building a 21st century immigration system that honors our rich traditions and strengthens our economy.

Fourth, education will continue to be the most sure path to success in the U.S. and around the world, and the U.S. will continue to have the best system of higher education in the world. According to *Times Higher Education* of London, 30 of the world's top 50 universities are located in the United States, and two of them are right here in North Carolina. (And I should mention that North Carolina also has two basketball teams in the top ten right now!) U.S. universities attract hundreds of thousands of international students each year because there is no better place to study (and I'm not just saying that because I normally work at a university). Nearly 20 percent of all students worldwide who go abroad for higher education enroll in the U.S. That exceeds the combined total of the next two most popular destinations, the U.K. and Australia.

Research has found that most of the highest ranked universities in the U.S. are over 100 years old. It takes time to build a great university. They are centers of research and innovation, but they are also places where students learn critical thinking skills that help them succeed in the knowledge economy.

It is not only four year colleges and post-graduate universities that form the backbone of the higher education system in the U.S. Our system of community colleges is also a strength. This unique system provides access to all who want to pursue higher education. More than thirty-five percent of first-time college freshman enroll at a community college. Research has found that students who complete a year of credit at a community college increase their earnings by 5 to 8 percent, which is about the same as the earnings gain associated with a year of credit from a four-year college. Our community college system is evidence that there are many avenues to success in higher education in the U.S.

Leveraging the advantages we already possess, President Obama has set a goal of having the largest share of college-educated adults by 2020, and he has put forward policies to increase financial access and college-readiness.

Fifth, we have an entrepreneurial culture, supported by a vibrant venture capital community. It should be no surprise that the MBA degree was invented in the U.S., and that it took over 40 years for schools in other countries to start issuing MBA degrees. The U.S. has always had the most daring entrepreneurs and we have a market, education system and culture that encourages entrepreneurship. Examples of some storied U.S. entrepreneurs include Steve Jobs, Jerry Yang, Jeff Bezos, Vera Wang, Warren Buffett, Howard Schultz, Walt Disney, Henry Ford, Ben Franklin, and Oprah Winfrey. It is startup entrepreneurs like these that drive a substantial part of job creation in the U.S. Research by John Haltiwanger and others has found that startups are a key component of job growth. In 2005, for

example, startup companies created 3.5 million jobs while overall net job growth in the U.S. was 2.5 million – without new startups we would have lost jobs.

The Obama Administration has taken findings like these to heart and has created an initiative called Startup America that includes a number of policy initiatives aimed at accelerating high-growth entrepreneurship. These policies focus on improving the environment for high-growth entrepreneurship, in five key areas:

- unlocking access to capital for high-growth companies;
- connecting mentors to entrepreneurs;
- reducing barriers and making government work for entrepreneurs;
- accelerating innovation from lab to market for federally funded R&D; and
- unleashing market opportunities in industries like healthcare, clean-tech, and learning technologies.

We have an entrepreneurial culture. If you think about it, we are a startup nation. The Founding Fathers were entrepreneurs who created a new nation. Entrepreneurship is in our DNA, and that will continue.

Sixth, it is a safe bet that the U.S. will continue to have a highly productive and innovative economy. Innovation comes in two basic forms: product innovation and process innovation. First, we innovate by creating new products, spurred by the rewards of having an opportunity to succeed in the largest economy in the world. Second, we innovate by figuring out ways to make the things that we already make with fewer resources, which raises our productivity. Our living standards increase from both of these forms of innovation.

In America, we admire the great inventors of our times and we marvel at their new technologies. This is a lesson I learned early. I remember going on a class trip as a child to visit Thomas Alva Edison's laboratory, and seeing all of the great innovations he was responsible for – he was awarded 1,093 distinct patents during his lifetime. These included the light bulb, the electric motor, the phonograph, the motion picture camera, the full duplex telegraph, and the alkaline battery.

Just think for a moment how these inventions boosted the economy, created new and better jobs and improved the quality of life here and around the world. The electric motor reduced the burden of lifting and carrying heavy objects, and helped

all types of businesses. With the light bulb and electricity, factories could run multiple shifts and produce more output for the world to consume with the same equipment. The telegraph increased the speed at which people could send and receive information. The motion picture and phonograph made it possible for people to enjoy the leisure time that came from economic growth and greater productivity.

Menlo Park, CA has become another locus of innovation in the century since Edison developed the phonograph in Menlo Park, NJ, but the lessons from Edison's laboratory still resonate. In New Jersey, legions of employees are working in industries that were established due to Edison's inventions. Moreover, Edison's cutting edge inventions attracted and supported other related innovative activities. One thing we have learned is that innovative activity often takes place in clusters, like the Research Triangle. In recognition of the spillover effects for the economy as a whole that accrue from clusters of innovative activity, the Obama Administration requested funds for regional innovation clusters in our FY 2011 Budget.

U.S. companies invest more in research and development than do private companies in the next three countries (China, Japan and Germany) combined. This is a key ingredient for our economic growth. But economists have long recognized that the incentives provided by the private market to invest in innovation are insufficient, and this is reflected in our policies. The private market alone underprovides investment in innovation because the returns accrue to more people than the private investors alone. This is particularly the case for basic science. Government investments have been critical for spurring innovation and economic growth along with private sector investments. The U.S. government invests a greater percentage of GDP in R&D than does the government in any other OECD country. Many products are a result of federally-funded research. Prominent examples include the Internet, which is the result of DARPA research, the Global Positioning System (GPS), and the sequencing of the human genome.

President Obama has called for a ramp up in R&D to 3% of GDP when private and public investments are combined – higher than during the space race. In addition, the President has taken steps to accelerate the commercialization, or lab to market phase, of development. And in September, President Obama signed the American Invents Act, which will provide more secure funding to the Patent and Trademark Office, reduce the backlog of patent applications, and improve patent quality. These steps – together with our strong educational system, research clusters, and competitive marketplace – will ensure that the U.S. is an innovative economy for years to come.

In his speech in Osawatimie, Kansas, earlier this month, President Obama noted that, “The world is shifting to an innovation economy and nobody does innovation better than America. No one has better colleges. Nobody has better universities. Nobody has a greater diversity of talent and ingenuity. No one’s workers or entrepreneurs are more driven or more daring. The things that have always been our strengths match up perfectly with the demands of the moment.”

Lastly, we are a resourceful, results-oriented people, with the capability to continually reinvent ourselves to pursue solutions that solve our problems. Winston Churchill reportedly said, “You can always count on the Americans to do the right thing – after they’ve tried everything else.”

There are two ways to interpret this quote. One, which is probably what Churchill meant, is that the answers to our problems are clear from the outset and that we go down many paths before choosing the one we should have started with.

The other interpretation – which is my preferred one – is that the solution to many of our problems may not be as clear cut as people think they are at the outset. Our system leads us to try lots of things. We Americans experiment a lot, and are good at shaking off setbacks and being persistent as we strive to improve ourselves. We are pragmatic. Once we find something that works we settle on it. We are Bayesians, in the sense that we learn from the past and try things until we get it right.

Our optimistic sense that we can solve our problems by pursuing a pragmatic approach is an enduring characteristic of our startup nation.

Conclusion

Let me conclude with some observations about the current economic situation. The U.S. economy has been expanding for two and a half years, but the pace of economic growth and job growth is not fast enough given the deep hole that was created by the long recession that started at the end of 2007. The economic challenges that the U.S. faces are the direct result of problems that took years to build up and that came to a boil in the financial and economic crisis of 2007-09. We are still recovering from that profound crisis and the problems that led to it. Because middle-class incomes failed to keep up with inflation, families borrowed to support their consumption and buy houses that later fell in value. Families are now paying down debt, which is restraining consumption and economic growth. Meanwhile, because we over built houses, builders are reluctant to build new homes and construction workers face a 13 percent unemployment rate. And the

government budget moved from surplus and paying down debt at the end of the 1990s to deficit and exploding debt in the early 2000s because the priorities in Washington at that time shifted to increased spending to prosecute two wars while cutting taxes in a skewed and inefficient way.

These are our main economic challenges, not uncertainty about economic policies, taxes or regulations. To an economist, the solution to these problems is clear: we need to raise demand for our goods and services in the short run to strengthen and sustain the economic recovery and put more people back to work, while we pursue credible policies to return to a fiscally sustainable path in the intermediate and long term *and* invest more in innovation, research and infrastructure. President Obama has proposed exactly this. In September, he proposed to the Congress a balanced plan that would increase demand in the short-term while decreasing the deficit in the 10-year budget window. It is this type of balanced approach that is needed to build a path toward fiscal sustainability.

Uncertainty cannot be an excuse for inaction. Even in an uncertain world, I have emphasized that there are considerable strengths that you can count on to continue in America – chiefly, our large, free market economy, our stable economic institutions, our culture and entrepreneurial spirit, our skilled workforce, and our ingenuity. I firmly believe that there is no amount of uncertainty that we cannot conquer by relying on the durable strengths of what is certain in America.

Thank you.